

## CONVERTIBLE CRIB

### Technical Field and Background of the Invention

[0001] This application claims the benefit of U.S. Provisional Application No. 60/487,549, filed July 15, 2003.

[0002] This invention relates to a furniture piece that is convertible into a variety of pieces, including a crib, youth bed, day bed, full-size bed, and sofa. The invention is particularly designed to be initially used as a crib, and then later converted into other furniture pieces depending upon the needs of the user. The invention is designed such that all structural components can be utilized when converting from a crib to another piece.

[0003] A child will typically outgrow a crib by approximately the age of two years. In view of the relatively short time period for using a crib, it is generally desirable from a marketing standpoint to provide a crib that can be converted into other useful furniture pieces once the child has outgrown the crib.

[0004] The prior art includes cribs with four legs in which the front panel is removable from the rest of the crib in order to form a day bed. Another prior art crib includes six legs and can convert into a day bed and a full-size bed. However, in each of these prior art cribs, at least one major structural components is discarded upon converting the crib to another furniture piece resulting in a waste of materials. Furthermore, both of these prior art cribs can be used to form only one furniture piece at a time. These prior art designs are explained in detail, *infra*.

Summary of the Invention

[0005] Therefore, it is an object of the invention to provide a furniture piece that can be converted from a crib to a variety of other furniture pieces, such as a youth bed, day bed, full-size bed, and sofa.

[0006] It is another object of the invention to provide a furniture piece that can be converted from a crib to other furniture pieces without discarding any major structural components.

[0007] These and other objects of the present invention are achieved in the preferred embodiments disclosed below by providing a crib which is convertible to another article of furniture having first, second, third and fourth interconnected panels defining an enclosure for supporting a base, and first, second, third and fourth legs for supporting the panels on a surface, the first and second legs supporting the first panel. The crib includes first and second stabilizer posts. The first stabilizer post is positioned parallel and proximate to the first leg, and the second stabilizer post positioned parallel and proximate to the second leg. The first and second stabilizer posts are sized to terminate at a point above the surface such that the stabilizer posts do not contact the surface. The first stabilizer post is connected to the second panel and the second stabilizer post is connected to the third panel. The first leg is releasably connected to the first stabilizer post, and the second leg is releasably connected to the second stabilizer post so that the crib is convertible to another furniture piece by disconnecting the first leg from the first stabilizer post and disconnecting the second leg from the second stabilizer post to remove the first panel, and positioning a base piece under the stabilizer posts so that the second, third and fourth panels are supported on the surface when the first and second legs are removed.

[0008] According to a preferred embodiment of the invention, the crib is convertible to a day bed, a youth bed, a full size bed and a sofa.

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[0009] According to another preferred embodiment of the invention, the first panel is adapted for use as a component on another article of furniture when removed from the crib, so that all parts of the crib are utilized.

[0010] According to yet another preferred embodiment of the invention, the first panel defines a front panel, the second panel defines a rear panel, the third panel defines a left side panel, and the fourth panel defines a right side panel. The crib is converted to a day bed by disconnecting the first and second panels from the stabilizer posts.

[0011] According to yet another preferred embodiment of the invention, the crib has a length approximately equal to a width of a full size bed, and the first panel is can serve as a footboard for a full size bed when disconnected from the first and second legs so that all components of the crib are utilized when the crib is converted to a day bed.

[0012] According to yet another preferred embodiment of the invention, the crib includes first and second foot pieces for releasably connecting to bottom sides of the first and second stabilizer posts. The foot pieces sized to terminate at the surface when connected to the stabilizer posts, so that the stabilizer posts and the foot pieces support the second and third panels on the surface when the first and second legs are disconnected from the stabilizer posts.

[0013] According to yet another embodiment of the invention, a front railing can be connected to the stabilizer posts when the first and second legs are disconnected from the stabilizer posts to form a youth bed.

[0014] According to yet another preferred embodiment of the invention, the convertible crib includes front, rear, left and right interconnected panels defining an enclosure for positioning a base. The crib includes first, second, third, and fourth primary support members for supporting the base, and are connected to the left and right panels. The crib further includes first, second, third and fourth secondary

support members releasably connected to the first, second, third and fourth primary support members, respectively. The secondary support members are connected to and support the front and rear panels. The crib is convertible to another furniture piece, such as a day bed, by disconnecting the first, second, third and fourth secondary support members from the first, second, third and fourth primary supports so that the front and rear panels are removed and the left and right panels are supported on the surface by the primary support members.

[0015] According to yet another preferred embodiment of the invention, the primary support members are first, second, third and fourth stabilizer posts, and the secondary support members are first, second, third and fourth legs. The first, second, third and fourth legs are releasably connected to the first, second, third and fourth stabilizer posts, respectively, so that the crib is convertible to another furniture piece by disconnecting the legs from the stabilizer posts to remove the front and rear panels, so that the left and right panels are supported on the surface when the legs are removed.

[0016] According to yet another preferred embodiment of the invention, the crib has a length approximately equal to a width of a bed, and the front panel is adapted to serve as a footboard for a bed when disconnected from the stabilizer posts, the rear panel is adapted for use as a headboard for the bed when disconnected from the stabilizer posts, whereby all components of the crib are utilized when the crib is converted to another article of furniture.

#### Brief Description of the Drawings

[0017] Some of the objects of the invention have been set forth above. Other objects and advantages of the invention will appear as the invention proceeds when taken in conjunction with the following drawings, in which:

[0018] Figure 1 is a perspective view of a prior art crib;

[0019] Figure 2 is a perspective view of another prior art crib;

[0020] Figure 2A is a perspective view of the prior art crib shown in Fig. 2 converted into a toddler bed;

[0021] Figure 2B is a perspective view of the prior art crib shown in Fig. 2 converted into a day bed;

[0022] Figure 2C is a perspective view of the prior art crib shown in Fig. 2 converted into a full-size bed;

[0023] Figure 3 is a side elevation of the prior art crib shown in Fig. 2;

[0024] Figure 4 is a perspective view of a convertible crib according to a preferred embodiment of the invention;

[0025] Figure 5A is a side elevation of the crib of Fig. 4;

[0026] Figure 5B is a side elevation of a convertible crib according to an other preferred embodiment of the invention

[0027] Figure 6 is a perspective view of the crib of Fig. 4 shown converted into a day bed;

[0028] Figure 7A is another side elevation of the crib of Fig. 4;

[0029] Figure 7B is a side elevation of a convertible crib according to another preferred embodiment of the invention;

[0030] Figure 8 is a perspective view of the crib of Fig. 4 shown converted into a toddler bed;

[0031] Figure 9 is a perspective view of the crib of Fig. 4 shown converted into a full-size bed;

[0032] Figure 10 is perspective view of a convertible crib according to yet another preferred embodiment of the invention;

[0033] Figure 11 is perspective view of the crib of Fig. 10 shown converted into a toddler bed;

[0034] Figure 12 is a perspective view of a crib according to yet another preferred embodiment of the invention;

[0035] Figure 13 is a side elevation of a convertible crib according to another preferred embodiment of the invention;

[0036] Figure 14A is a schematic top plan view of the crib of Fig. 13;

[0037] Figure 14B is a schematic side elevation of the crib of Fig. 13;

[0038] Figure 15A is a schematic top plan view of the crib of Fig. 13 shown converted into a youth bed;

[0039] Figure 15B is a schematic side elevation of the crib of Fig. 13 shown converted into a youth bed;

[0040] Figure 16A is schematic top plan view of the crib of Fig. 13 shown converted into a full-size bed and a day bed;

[0041] Figure 16B is schematic side elevation of the crib of Fig. 13 shown converted into a full-size bed and a day bed;

[0042] Figure 17 is a perspective view of the day bed of Figs. 16A and 16B;

[0043] Figures 18A-18E are side elevations of five preferred embodiments of the invention;

[0044] Figure 19A is a side elevation of a crib according to yet another preferred embodiment of the invention; and

[0045] Figure 19B is an exploded side elevation of the crib of Fig. 19A.

Description of the Preferred Embodiment and Best Mode

*Prior Art*

[0046] Referring now specifically to the drawings, a prior art crib is illustrated in Figure 1, and shown generally at reference numeral 10. The crib 10 comprises a front panel 11, a rear panel 12 and two narrower side panels 13, 14. The panels 11-14 are mounted on four legs 15a-d. The front panel 11 is removably engaged to the front legs 15a, 15b. When desired by the user, the crib 10 can be converted into a day bed by removing front panel 11. However, the utility of crib 10 is substantially limited in that it can be converted only to a day bed, and upon doing so the front panel 11 is discarded as it has no other function.

[0047] Another prior art crib is illustrated in Figure 2, and shown generally at reference numeral 20. The prior art crib 20 comprises a front panel 21, a rear panel 22 and two smaller side panels 23, 24. The crib 20 includes six legs 25a-f. The front panel 21 is mounted on legs 25a, 25b, while the rear panel 22 is mounted on legs 25c, 25d. Legs 25e, 25f are directly behind and removably engaged to legs 25a, 25b, respectively. Side panel 23 is supported by legs 25e and 25c, as shown in Figure 3, while the other side panel 24 is similarly supported by legs 25f and 25d. Figure 2A shows the crib 20 converted into a toddler bed by removing front panel 21 and

replacing it with a modified panel 26. Figure 2B shows the crib 20 converted into a day bed by removing the front panel 21, and Figure 2C shows the front panel 21 and the rear panel 22 removed from the crib 20 for use as a footboard and a headboard, respectively on a full-size bed. In all of its various configurations shown in Figures 2A-2C, at least one of the major structural components of the crib 20, is discarded, resulting in a substantial waste of materials. Furthermore, the crib 20 can provide only one of the various configurations at once.

*Invention*

[0048] A preferred convertible crib according to the present invention is illustrated in Figure 4 and shown generally at reference numeral 40. The crib 40 comprises a front panel 41, a rear panel 42 and two narrower side panels 43, 44, four legs 45a-d, and two stabilizer posts 46, 47. As shown in Figures 5A and 5B, side panel 43 includes a horizontally extending top side rail 43a and a horizontally extending bottom side rail 43b respectively. One of the stabilizer posts 46 extends vertically and connects the top side rail 43a to the bottom side rails 43b. The other side panel 44 is constructed identically to side panel 43, and therefore is not shown in similar detail. Likewise, the other stabilizer post 47 is configured within the crib 40 identically to stabilizer post 46. Side panel 44 includes a horizontally extending top side rail and a horizontally extending bottom side rail connected by stabilizer post 47.

[0049] As shown in Figures 4, 5A and 5B, the stabilizer posts 46, 47 are positioned adjacent to the front legs 45a, 45b, respectively. The front legs 45a, 45b are removably engaged to the stabilizer posts 46, 47, respectively, by any conventional connecting means, such as nuts and bolts. The rear legs 45c, 45d, supporting the rear panel 42, are removably engaged to side panels 43, 44, respectively. The front panel 41 is connected to the front legs 45a, 45b, or alternatively, the stabilizer posts 46, 47. In addition, an arched bottom piece 48 is attached below bottom side rail 43b. Likewise, an arched bottom

piece (not shown) is attached below the bottom side rail (not shown) of the other side panel 44. Figure 5A shows the stabilizer post 46 extending all the way to the bottom of the arched bottom piece 48, while Figure 5B shows an alternative embodiment in which the stabilizer post terminates at the bottom side rail 43b.

- [0050] As shown in Figures 6, 7A and 7B, the crib 40 can be converted into a day bed 40' by disengaging the front legs 45a, 45b from the stabilizer posts 46, 47. The front panel 41 is removed, and foot pieces 49 are connected to the bottom of the stabilizer posts 46, 47. Similarly, the crib 40 can be converted into a toddler or youth bed 40" by adding a front railing 54 connected to the stabilizer posts 46, 47, as shown in Figure 8.
- [0051] The length of the crib 40 is approximately equal to the width of a full-size bed. As such, the front panel 41 and the rear panel 42 can be removed from the rest of the crib 40, and used as a footboard and headboard, respectively, on a full-size bed as shown in Figure 9. To remove the front panel 41, the front legs 45a, 45b are disconnected from the stabilizer posts 46, 47 as described above. The rear panel 42 is removed by disconnecting the rear legs 45c, 45d from the side panels 43, 44, respectively.
- [0052] Figure 10 shows an alternative embodiment of the invention as a crib 140 in which a bottom piece 51 is positioned below the bottom side rails of the side panels 43, 44 and is flush with the legs 45a-d. The bottom piece 51 eliminates the need for foot pieces 49 when legs 45a, 45b are removed, as shown in Figure 11.
- [0053] Figure 12 shows another embodiment of a crib 140' in which an arched bottom piece 58 is positioned underneath the bottom side rails and is flush with the legs 65a-d at its opposing ends. Bottom piece 58 also eliminates the need for foot pieces 49.

[0054] Another preferred embodiment of the invention is illustrated in Figure 13, and shown generally at reference numeral 60. As shown in Figures 13, 14A and 14B, the convertible crib 60 comprises a front panel 61, a rear panel 62 and two smaller side panels 63, 64, four legs 65a 65b, 65c and 65d, and four stabilizer posts 66, 67, 68 and 69. Side panel 63 includes a horizontally extending top side rail 63a and a horizontally extending bottom side rail 63b, respectively. The other side panel is constructed identically to side panel 63, and therefore is not shown in similar detail. As shown in Figures 14A-B, the front legs 65a, 65b support the front panel 61, and the rear legs 65c, 65d support the rear panel 62. The stabilizer posts 66-69 are positioned adjacent and parallel to the legs 65a-d, respectively. Each leg 65a-d is removably engaged to a respective stabilizer post 66-69, by a conventional connecting means, such as nuts and bolts.

[0055] As shown in Figures 15A-B, the crib 60 can be converted into a day bed by disconnecting the front legs 65a, 65b from stabilizer posts 66, 67 to remove the front panel 61. Foot pieces 49 are positioned under the stabilizer posts 66, 67. In addition, the crib 60 can be converted into a toddler or youth bed by adding a front railing.

[0056] The length of the crib 60 is approximately equal to the width of a full size bed. Therefore, the front panel 61 and the rear panel 62 can be removed from the rest of the crib 60 by disengaging the legs 65a-d from the stabilizer posts 66-69, and used as a footboard and headboard, respectively, on a full-size bed as shown in Figure 16A. Because the stabilizer posts 66-69 are structurally independent of the legs 65a-d, the bed of the crib 60 remains stable and standing when the front panel 61 and rear panel 62 are removed, unlike in the prior art. While the front panel 61 and rear panel 62 are used as a footboard and headboard in a full size bed, the remaining parts of the crib 60 form a day bed 70, as shown in Figures 16A-B and 17, by positioning foot pieces 49 under all four stabilizer posts 66-69. As such, all structural

components of the crib 60 can be utilized at once in two different furniture pieces. Alternatively, the stabilizer posts 66-69 could be full length legs.

[0057] Figures 18A-E show various preferred embodiments of the crib according to the invention. Figures 18B depicts a preferred embodiment in which an arched bottom piece 78 is attached underneath each bottom side rail of the side panels 63, 64 and is flush with the legs 65a-d. The arched bottom pieces 78 eliminate the need for foot pieces 49 when legs 65a-d are removed.

[0058] Figure 18D shows a preferred embodiment in which the bottom side rail 63a of side panel 63 is flush with legs 65a, 65c. Side panel 64 is constructed identically to side panel 63. The flush bottom side rails eliminates the need for foot pieces 49 when the legs 65a-d are removed.

[0059] Figure 18E shows a preferred embodiment in which each side panel 63, 64 comprises a solid panel that is flush with the legs 65a-d. Figures 19A-B show another preferred embodiment in which each side panel 63, 64 comprises a solid top side panel 73 and a solid lower side panel 74 that is flush with the legs 65a-d. The top side panel 73 is removably engaged to the bottom side panel 74 so that when the crib 60 is converted to a day bed or sofa, the top side panel 73 can be removed so that the side panels 63, 64 appear to be in proper proportion.

[0060] A convertible crib and methods for using same are described above. Various details of the invention may be changed without departing from its scope. Furthermore, the foregoing description of the preferred embodiment of the invention and the best mode for practicing the invention are provided for the purpose of illustration only and not for the purpose of limitation— the invention being defined by the claims.